

Remarks:

Claims 41-49, 51-64, 66-82, and 84-95 remain for consideration in this application, with claims 41, 53, 71, 89-95 being in independent format. In view of the claims as they now stand, in combination with the remarks hereunder, the rejection of the Office Action dated May 18, 2007, must respectfully be overcome.

Turning now to the office action, the Examiner has maintained rejections against claims 41-43, 48-49, 51-53, 55, 57-59, 63-71, 73, 75-77, 81-82, 84-92, and 94-95 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Publication No. 2005/0031964 to Babich et al. The Examiner has also maintained the rejection against claims 54, 56, 72, 74, and 93 under 35 U.S.C. § 103(a) as being unpatentable over the Babich et al. reference.

The Babich et al. reference has a filing date of August 5, 2003. In response to the previous Office Action, Applicants submitted a Declaration under 37 C.F.R. § 1.131 showing that the Applicants reduced the claimed invention to practice in the United States prior to August 5, 2003. The Declaration was signed by Dr. Jim D. Meador, one of the inventors named on the above-referenced patent application. The Examiner, however, determined that the Declaration was not sufficient to overcome the Babich et al. reference because the species shown in the Applicants' declaration was not the same as the species disclosed in the Babich et al. reference. In particular, the Examiner said that the Applicants had not demonstrated prior possession of the exact species disclosed in Babich et al., which the Examiner maintains anticipates the species recited in claim 43.

However, Applicants respectfully note that in setting forth the requirements of a declaration used to antedate a reference, the Examiner has omitted portions of M.P.E.P. § 715.03. That is, showing prior possession of the exact species disclosed in the prior art is only one of three permissible ways an applicant can overcome a reference with an antedating declaration. M.P.E.P. § 715.03 provides two additional ways to indirectly overcome a reference using an antedating declaration.

In particular, “the applicant may be able to antedate the reference or activity indirectly by, for example, showing prior completion of one or more species which put him or her in possession of the claimed genus prior to the reference’s or activity’s date. The test is whether the species completed by applicant prior to the reference date or the activity’s date provided an adequate basis for inferring that the invention has generic applicability.” *In re Plumb*, 470 F.2d 1403, 176 U.S.P.Q. 323 (C.C.P.A. 1973); *In re Rainer*, 390 F.2d 771, 156 U.S.P.Q. 334 (C.C.P.A. 1968); *In re Clarke*, 356 F.2d 987, 148 U.S.P.Q. 665 (C.C.P.A. 1966); *In re Shokal*, 242 F.2d 771, 113 U.S.P.Q. 283 (C.C.P.A. 1957). Under this approach, “[i]t is not necessary for the affidavit evidence to show that the applicant viewed his or her invention as encompassing more than the species actually made. The test is whether the facts set out in the affidavit are such as would persuade one skilled in the art that the applicant possessed so much of the invention as is shown in the reference or activity.” *In re Schaub*, 537 F.2d 509, 190 U.S.P.Q. 324 (C.C.P.A. 1976).

The other approach is to show that the species disclosed in the prior art would have been obvious in view of the species shown to have been made by the applicant. *In re Clarke*, 356 F.2d

987, 148 U.S.P.Q. 665 (C.C.P.A. 1966); *In re Plumb*, 470 F.2d 1403, 176 U.S.P.Q. 323 (C.C.P.A. 1973); *In re Hostettler*, 356 F.2d 562, 148 U.S.P.Q. 514 (C.C.P.A. 1966).

The present application is directed towards the invention of using polyhedral oligomeric silsesquioxane ("POSS") materials, as compounds or polymers, dispersed or dissolved in a solvent system with a crosslinking agent, for use in lithographic compositions as middle or protective layers during circuit manufacturing. Applicants have attached to this Amendment a Declaration under 37 C.F.R. §1.131 setting forth facts that would persuade a person skilled in the art that the Applicants possessed the invention and reduced the claimed invention to practice in the United States, prior to August 5, 2003. The Declaration is signed by Dr. Jim D. Meador, one of the inventors named on the above-referenced patent application. Briefly, Exhibits A and B show: the preparation of a composition within the scope of composition claims 41-49, 51-52, 89, and 95; a structure within the scope of claims 53-64, 66-70, and 90-91; and a method within the scope of claims 71-82, 84-88, and 92-94. The dates on these Exhibits have been blocked out, but Dr. Meador declares that those dates are earlier than August 5, 2003.

The Declaration provides a detailed explanation of where each limitation of each independent claim can be found in the accompanying Exhibits. To summarize, Exhibit A describes the preparation of a POSS with an alcohol functionality. The POSS was used to prepare a composition by dissolving or dispersing the POSS in a solvent system. The composition also included an aminoplast cross-linking agent, catalyst (which is also a strong acid), and a weak acid. Exhibits A and B also show how the composition was spin-coated onto a substrate to form a layer. Exhibit B shows the processing conditions (spin speeds, curing conditions, film thicknesses, and exposure and

developments steps) used to form a layer of the composition on a substrate, to apply a photoresist to that composition layer, and to pattern the photoresist. Accordingly, the Declaration and Exhibits demonstrate that Applicants were in possession of the invention of using a POSS dispersed or dissolved in a solvent system with a crosslinking agent for use in lithographic compositions as middle or protective layers during circuit manufacturing, before the filing date of Babich et al.

The above was submitted in the last response, and the Examiner maintained the rejection because she found the above only showed support for the polymerized POSS and not the POSS in compound form, which she stated was the species disclosed by Babich et al. The Declaration attached to this response contains additional facts to rebut this assertion and show that the requirements of M.P.E.P. § 715.03 have been met.

The Declaration explains that the Applicants initially decided to try the POSS materials in the middle layer compositions, because the Applicants wanted to maximize the amount of silicon in the compositions and thought POSS materials might provide this property. Again, as explained above, a POSS compound, methacryl ethyl-POSS, was polymerized with hydroxypropyl methacrylate to form a POSS polymer having an alcohol (-OH) functionality. The composition prepared in Exhibit A from this polymerized compound demonstrated to the Applicants that POSS materials increased silicon content in the composition and possessed properties that were amenable to being used in middle layer or protective layers for lithographic processes. Immediately after utilizing a POSS-containing polymer in a middle layer composition, Applicants utilized a non-polymerized POSS compound in the composition, knowing that if these novel compositions could be formed using POSS polymers, they could likely be formed using the POSS compounds directly,

i.e., without polymerization. That is, the POSS compounds are simply the units used to make the POSS polymers and should provide all the benefits of the polymerized form. Thus, one skilled in the art would understand that the POSS compound (i.e., in its commercially-available, non-polymeric form) would likely also increase silicon content in the composition and provide other desirable properties provided by the POSS polymer so as to yield a superior middle layer. Accordingly, although the constituent prepared in Exhibit A was a POSS *polymer* having an alcohol functionality, this species, in view of the Exhibits and Declaration, provides "an adequate basis for inferring that the invention has generic applicability" to the use of POSS materials, whether in *compound* or *polymer* form, in the novel compositions and methods of the present invention.

It is respectfully submitted that the above arguments, along with the detailed explanation provided in the attached Declaration by Dr. Meador (and accompanying exhibits), show possession of the claimed invention by showing prior completion of one or more species which put Applicants in possession of the claimed genus prior to the filing date of the Babich et al. reference. Thus, the Babich et al. reference is not available as prior art against the presently pending claims because the Babich et al. application was not filed prior to the invention claimed by the Applicants.

It is noted with appreciation the Examiner acknowledged that the prior art fails to teach: (1) a polymer having recurring POSS monomers as claimed in claims 45-47; or (2) a composition in which both R³ group and an alcohol functionality are present on the polymer or compound, as claimed in claim 44. Office Action 10/12/2006, page 4, ¶ 6. The Examiner raised no further rejections and cited no further references in this office action.

Accordingly, a Notice of Allowance appears to be in order. Any additional fee due in conjunction with this amendment should be applied against our Deposit Account No. 19-0522.

Respectfully submitted,

By 

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